

Application No. 10/696,046
Amendment Dated December 17, 2007
Reply to Office Action of July 5, 2007

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for clarifying an optical/digital image of an object to perform a procedure on an object, comprising the steps of:

- (a) applying to said object a light beam formed of incoherent light and reflecting said applied incoherent light beam from said object to provide a reflected light beam;
- (b) providing electrical signals representative of said reflected light beam;
- (c) determining an image quality metric in accordance with said electrical signals to provide a determined image quality metric;
- (d) determining an image in accordance with said determined image quality metric to provide a determined image; and
- (e) performing said procedure in accordance with said image quality metric and said determined image.

2. (Currently Amended) The method for clarifying an optical/digital image of an object Claim 1, further comprising ~~the further steps~~ of:

- (a) applying to said object a further light beam and reflecting said further light beam from said object to provide a further reflected light beam;

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- (b) providing a further image in accordance with said further reflected light beam; and
- (c) superimposing said determined image and said further image to provide a composite image.

3. (Currently Amended) The method for clarifying an optical/digital image of an object of Claim 2, further comprising the further step of performing said procedure in accordance with said composite image.

4. (Currently Amended) The method for clarifying an optical/digital image of an object of Claim 3, further comprising the further step of applying said determined image and said further image to a superposition screen in order to provide said composite image.

5. (Currently Amended) The method for clarifying an optical/digital image of an object of Claim 4, further comprising the further step of optimizing at least one of said determined image and said further image to provide an optimized image.

6. (Currently Amended) The method for clarifying an optical/digital image of an object of Claim 5, wherein said object has a selected feature, further comprising the further step of optimizing said at least one of said determined image and said further image to emphasize a visualization of said selected feature.

7. (Currently Amended) The method for clarifying an optical/digital image of an object of Claim 5, wherein said object has a selected feature, further comprising the further step of optimizing

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said at least one of said determined image and said further image to de-emphasize a visualization of said selected feature.

8. (Currently Amended) The method for clarifying an optical/digital image of an object of Claim 7, wherein said object is an eye, further comprising ~~the further step of~~ de-emphasizing a visualization of blood.

9. (Currently Amended) The method for clarifying an optical/digital image of an object of Claim 6, further comprising ~~the further step of~~ adjusting an amount of emphasizing of said visualization during a performance of said procedure.

10. (Currently Amended) The method for clarifying an optical/digital image of an object of Claim 9, further comprising ~~the further step of~~ adjusting an amount of emphasizing of said selected feature by adjusting the relative contributions of said determined image and said further image to said composite image.

11. (Currently Amended) The method for clarifying optical/digital images of an object of Claim 5, further comprising ~~the further steps of:~~

- (a) applying a perturbation to said image quality metric to provide a perturbed image quality metric; and
- (b) determining whether a predetermined image quality is obtained in accordance with said perturbed image quality metric.

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12. (Currently Amended) The method for clarifying an optical/digital image of an object of Claim 1 [[3]], wherein said object is an eye of a patient and said procedure is an ophthalmological procedure.

13. (Currently Amended) The method for clarifying an optical/digital image of an object of Claim 12, wherein said ophthalmological procedure comprises a photocoagulation procedure for performing said photocoagulation procedure within an eye.

14. (Currently Amended) The method for clarifying an optical/digital image of an object of Claim 12, wherein said ophthalmological procedure comprises an optical biopsy procedure for performing said optical biopsy procedure within an eye.

15. (Currently Amended) The method for clarifying an optical/digital image of an object of Claim 12, wherein said ophthalmological procedure comprises a measurement procedure for performing said measurement procedure within an eye.

16. (Currently Amended) The method for clarifying an optical/digital image of an object of Claim 12, further comprising the further step of determining a location within an eye.

17. (Currently Amended) The method for clarifying an optical/digital image of an object of Claim 1, wherein said object is an eye having an iris, further comprising the further steps of:

- (a) providing an iris biometric image of said an eye in accordance with said determined image quality metric; and
- (b) determining a location within said an eye in accordance with said iris biometric image.

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18. (Currently Amended) The method for clarifying an optical/digital image of an object of Claim 17, further comprising ~~the further step of~~ determining a location within said iris in accordance with said iris biometric image.

19. (Currently Amended) The method for clarifying an optical/digital image of an object of Claim 17, further comprising ~~the further step of~~ determining an orientation of said iris in accordance with said iris biometric image.

20. (Currently Amended) The method for clarifying an optical/digital image of an object of Claim 17, further comprising ~~the further step of~~ identifying said iris in accordance with said iris biometric image.

21. (Currently Amended) The method for clarifying an optical/digital image of an object of Claim 20, further comprising ~~the further step of~~ identifying an iris of a patient within an ophthalmological procedure in accordance with said iris biometric image.

22. (Currently Amended) The method for clarifying an optical/digital image of an object of Claim 20, further comprising ~~the further step of~~ identifying an iris of a person within a security verification in accordance with said iris biometric image.

23. (Currently Amended) The method for clarifying an optical/digital image of an object of Claim 1, wherein said object is an article of manufacture comprising, further ~~the further step of~~ identifying said article of manufacture in accordance with said iris biometric image.

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24. (Currently Amended) The method for clarifying an optical/digital image of an object of Claim 23, further comprising the further step of controlling a manufacturing process in accordance with said identifying of said article of manufacture.

Claims 25-39. (Canceled)

Please add the following new claims 40-48.

40. (New) The method for clarifying an optical/digital image of an object of claim 1, further comprising:

- a) applying to said object of plurality of differing light beams formed of incoherent light and reflecting said applied incoherent light beams from said object to provide a plurality of reflected light beams;
- b) providing a corresponding plurality of electrical signals representative of said plurality of reflected light beams;
- c) determining a plurality of image quality metrics in accordance with said plurality of electrical signals; and
- d) determining said determined image in accordance with said plurality of image quality metrics.

41. (New) The method for clarifying an optical/digital image of an object of claim 40, wherein said determined image quality metric is determined in accordance with a light absorption property of a selected tissue.

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42. (New) The method for clarifying an optical/digital image of an object of claim 41, wherein said selected tissue comprises tumor tissue.

43. (New) The method for clarifying an optical/digital image of an object of claim 41, wherein said selected tissue comprises lesion tissue.

44. (New) The method for clarifying an optical/digital image of an object of claim 41, wherein said selected tissue comprises blood tissue.

45. (New) The method for clarifying an optical/digital image of an object of claim 41, wherein said light absorption property of said selected tissue comprises a light absorption property of a tissue pathology.

46. (New) The method for clarifying an optical/digital image of an object of claim 41, wherein said plurality of differing light beams includes light beams of a plurality of corresponding differing frequencies, further comprising:

a) selecting a frequency of said plurality of differing frequencies in accordance with an image quality metric of said plurality of image quality metrics to provide a selected frequency;

b) applying to said object a light beam of said selected frequency to said selected tissue; and

c) performing surgery upon said selected tissue in accordance with said selected frequency.

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47. (New) The method for clarifying an optical/digital image of an object of claim 40, further comprising compensating an aberration in accordance with an image quality metric of said plurality of image quality metrics.

48. (New) The method for clarifying an optical/digital image of an object of claim 40, further comprising controlling an ocular refractive lens alteration device in accordance with an image quality metric of said plurality of image quality metrics.